CLAIM AMENDMENTS

1. (Original) A fuel cell system, comprising:

a fuel cell, a fuel supply, an oxidant supply, a power demand sensor, a heat demand sensor, and a controller;

wherein the fuel cell is adapted to receive a fuel flow from the fuel supply, and an oxidant flow from the oxidant supply;

wherein the controller is connected to each of the fuel supply, oxidant supply, power demand sensor, and heat demand sensor, and wherein the controller is further adapted to received a power demand signal from the power demand sensor and a heat demand signal from the heat demand sensor;

wherein the controller is adapted to reduce at least one of the fuel flow and oxidant flow when there is no heat demand signal and no power demand signal;

wherein the controller is adapted to increase at least one of the fuel flow and oxidant flow when there is no power demand signal and there is a heat demand signal; and

wherein the controller is adapted to increase at least of the fuel flow and oxidant flow when there is a power demand and a heat demand signal.

2.-49. (Cancelled)

50. (New) A fuel cell system comprising:

a fuel supply providing a fuel flow;

an oxidant supply providing an oxidant flow;

a fuel cell to:

receive the fuel flow and the oxidant flow, and

generate heat and power in response to the fuel flow and the oxidant flow; and

a controller to:

control at least one of the fuel flow and the oxidant flow based on the heat generated by the fuel cell and based on the power generated by the fuel cell.

51. (New) The fuel cell system of claim 50, further comprising:

a heat demand sensor to generate a head demand signal; and

a power demand sensor to generate a power demand signal,

wherein the controller responds to the heat demand signal and the power demand signal to control at least one of the fuel flow and the oxidant flow.

52. (New) The fuel cell system of claim 51, wherein the controller reduces at least one of the fuel flow and the oxidant flow in response to no heat demand signal and no power demand signal.

53. (New) The fuel cell system of claim 51, wherein the controller increases at least one of the fuel flow and the oxidant flow in response to no heat demand signal and the presence of the power demand signal.

54. (New) The fuel cell system of claim 51, wherein the controller increases at least one of the fuel flow and the oxidant flow in response to no power demand signal and the presence of the heat demand signal.

55. (New) The fuel cell system of claim 51, wherein the controller increases at least one of the fuel flow and oxidant flow in response to the presence of the power demand signal and the presence of the heat demand signal.

56. (New) The fuel cell system of claim 51, wherein the power demand sensor comprises a fuel cell voltage sensor that produces a power demand signal in response to a voltage of the fuel cell decreasing below a predetermined level.

57. (New) The fuel cell system of claim 51, wherein the power demand sensor comprises a fuel cell current sensor that produces a power demand signal in response to an output current of the fuel cell increasing above a predetermined level.

58. (New) The fuel cell system of claim 51, wherein the power demand sensor comprises a fuel cell output current sensor and an electrical load sensor, wherein the power demand sensor produces a power demand signal when an electrical load on the fuel cell exceeds an output current of the fuel cell.

59. (New) A fuel cell system comprising:

a fuel supply providing a fuel flow;

an oxidant supply providing an oxidant flow;

a fuel cell to:

receive the fuel flow and the oxidant flow, and

generate power and produce an exhaust flow in response to the fuel flow and the oxidant flow;

an oxidizer to receive the exhaust flow from the fuel cell and produce heat in response to the exhaust flow; and

a controller to:

control at least one of the fuel flow and the oxidant flow based on the heat generated by the oxidizer and based on the power generated by the fuel cell.

60. (New) The fuel cell system of claim 59, further comprising:

a heat demand sensor to generate a head demand signal; and

a power demand sensor to generate a power demand signal,

wherein the controller responds to the heat demand signal and the power demand signal to control at least one of the fuel flow and the oxidant flow.

61. (New) The fuel cell system of claim 60, wherein the controller reduces at least one of the fuel flow and the oxidant flow in response to no heat demand signal and no power demand signal.

62. (New) The fuel cell system of claim 60, wherein the controller increases at least one of the fuel flow and the oxidant flow in response to no heat demand signal and the presence of the power demand signal.

63. (New) The fuel cell system of claim 60, wherein the controller increases at least one of the fuel flow and the oxidant flow in response to no power demand signal and the presence of the heat demand signal.

64. (New) The fuel cell system of claim 60, wherein the controller increases at least one of the fuel flow and oxidant flow in response to the presence of the power demand signal and the presence of the heat demand signal.

65. (New) The fuel cell system of claim 60, wherein the power demand sensor comprises a fuel cell voltage sensor that produces a power demand signal in response to a voltage of the fuel cell decreasing below a predetermined level.

66. (New) The fuel cell system of claim 60, wherein the power demand sensor comprises a fuel cell current sensor that produces a power demand signal in response to an output current of the fuel cell increasing above a predetermined level.

67. (New) The fuel cell system of claim 60, wherein the power demand sensor comprises a fuel cell output current sensor and an electrical load sensor, wherein the power demand sensor produces a power demand signal when an electrical load on the fuel cell exceeds an output current of the fuel cell.

68. (New) A fuel cell system comprising:

a fuel cell stack to:

receive a first fuel flow and an oxidant flow, and

generate power in response to the first fuel flow and the oxidant flow;

a fuel supply providing the first fuel flow to the fuel cell stack and a second fuel flow that bypasses the fuel cell stack;

an oxidant supply providing the oxidant flow;

an oxidizer to receive the second fuel and produce heat in response to the exhaust flow; and

a controller to:

control the first fuel flow to the fuel cell stack based on the power demand and control the second fuel flow the oxidizer based on the power generated by the fuel cell fuel cell stack.

69. (New) The fuel cell system of claim 68, wherein the controller regulates the first fuel flow to minimize power produced by the fuel cell stack above a power demanded by a load that is connected to the fuel cell system.

70. (New) The fuel cell system of claim 68, wherein the controller regulates the first fuel flow and the second fuel flow independently from each other.

71. (New) The fuel cell system of claim 68, further comprising:

a heat demand sensor to generate a head demand signal; and

a power demand sensor to generate a power demand signal,

wherein the controller responds to the heat demand signal and the power demand signal to control at least one of the fuel flow and the oxidant flow.

72. (New) The fuel cell system of claim 71, wherein the controller reduces the first fuel flow and the oxidant flow in response to no heat demand signal and no power demand signal.

73. (New) The fuel cell system of claim 71, wherein the controller increases the first fuel flow in response to no heat demand signal and the presence of the power demand signal.

74. (New) The fuel cell system of claim 71, wherein the controller increases the second fuel flow in response to no power demand signal and the presence of the heat demand signal.

75. (New) The fuel cell system of claim 71, wherein the controller increases at least one of the first fuel flow and the second fuel flow in response to the presence of the power demand signal and the presence of the heat demand signal.

76. (New) A method comprising:

providing a fuel flow;

providing an oxidant flow;

using a fuel cell to generate heat and power in response to the fuel flow and the oxidant flow; and

controlling at least one of the fuel flow and the oxidant flow based on the heat generated by the fuel cell and based on the power generated by the fuel cell.

77. (New) The method of claim 76, further comprising:

generating a head demand signal; and

generating a power demand signal.

78. (New) The method of claim 76, wherein the controlling comprises:

reducing at least one of the fuel flow and the oxidant flow in response to no heat demand signal and no power demand signal.

79. (New) The method of claim 76, wherein the controlling comprises:

increasing at least one of the fuel flow and the oxidant flow in response to no heat demand signal and the presence of the power demand signal.

80. (New) The method of claim 76, wherein the controlling comprises:

increasing at least one of the fuel flow and the oxidant flow in response to no power demand signal and the presence of the heat demand signal.

81. (New) The method of claim 76, wherein the controlling comprises:

increasing at least one of the fuel flow and oxidant flow in response to the presence of the power demand signal and the presence of the heat demand signal.